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ROBERT KOCH

IN MEMORIAM

BY

S. ADOLPHUS KNOPF, M.D.

NEW YORK

Professor of Phthisiotherapy at the New York
Post-Graduate Medical School
and Hospital

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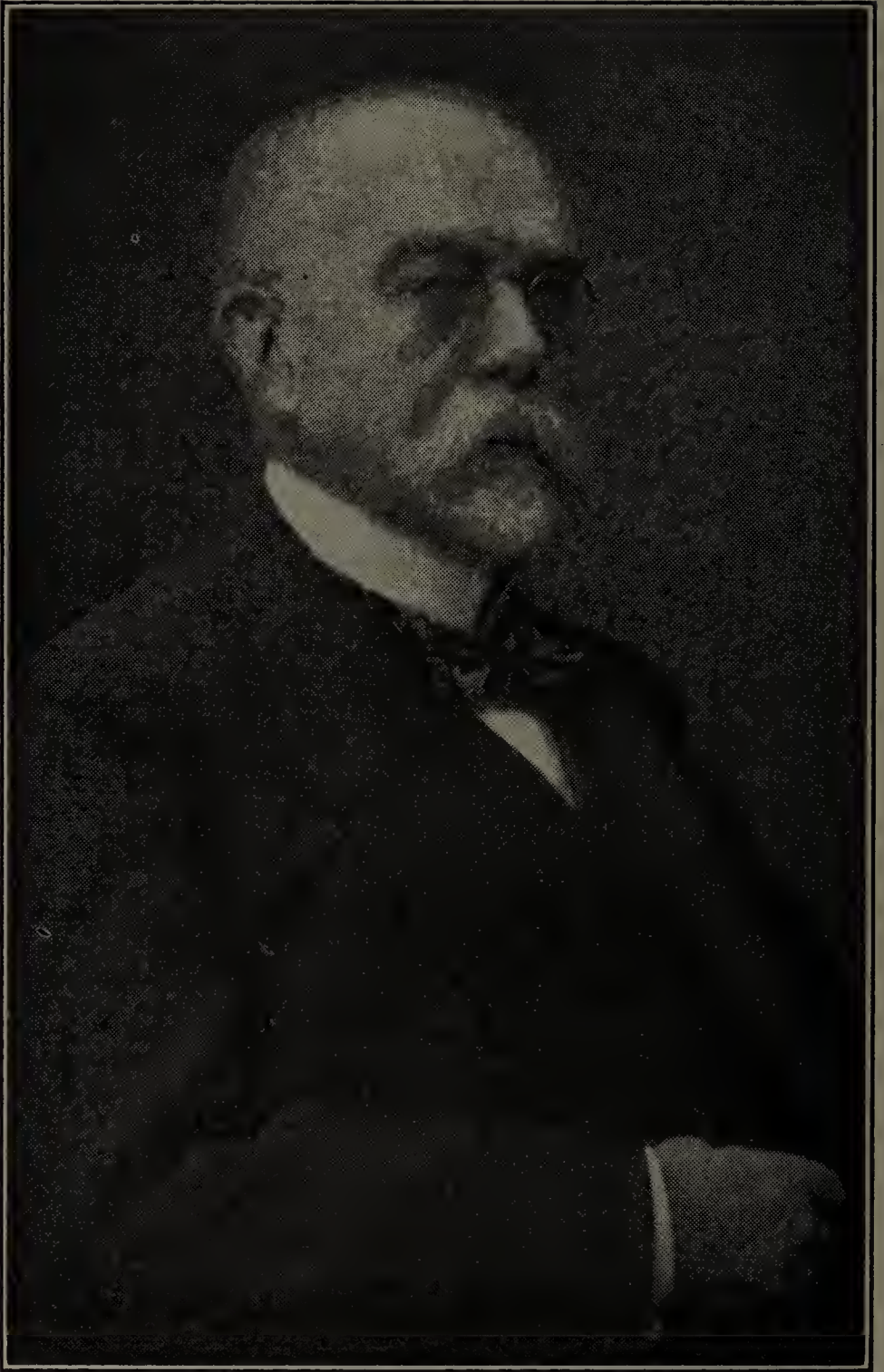
PROFESSOR OF PHTHISIO THERAPY AT THE NEW YORK POST-GRADUATE
MEDICAL SCHOOL AND HOSPITAL.

I DO not believe that I can begin my task to-day in the capacity of a teacher of phthisiotherapy without first paying a tribute to the greatest of all teachers in tuberculosis science. Robert Koch, the discoverer of the bacillus of tuberculosis, died yesterday afternoon (May 27) from a cardiac affliction at Baden Baden, whither he had gone in search of health. I know that you will gladly pause with me in our usual work for a few moments to listen to a brief account of the life of this man whom we all acknowledge to have been the greatest figure in modern medical science.

Robert Koch was born of well-to-do parents in Klausthal, Germany, December 11, 1843. After finishing his preliminary education, he studied at various universities in Germany. Prior to his graduation at Goettingen, in 1866, he distinguished him-

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self as the winner of a prize essay on an anatomical subject ("The Nerve Ganglions of the Uterus"). His first epoch-making discovery was that of the spores of the anthrax bacillus in 1876. His monograph on "Researches in the Etiology of Surgical Infections" in 1878 is still considered a standard work. Then came that great immortal discovery of the bacillus of tuberculosis in 1882, the discovery of the comma bacillus of Asiatic cholera in 1883, and the discovery of tuberculin in 1890. His more recent works on tropical malaria, sleeping-sickness, typhoid fever, and on the differentiation of bovine and human tuberculosis, are most valuable contributions to our knowledge of these diseases.

Few men have traveled as much and as far as Koch in order to be helpful in the combat of endemic and epidemic diseases. In 1883, at the time when a fearful epidemic of cholera decimated the population of Egypt, he went thither to study the causes and prevention of the disease. In civilized countries we are now in a position, by early and accurate diagnosis, quarantine, proper hygiene, and sanitation, to reduce the mortality from cholera to a minimum, and we owe the victory over this once so prevalent and fatal plague to Koch. Because of his extraordinary thoroughness as a bacteriological diagnostician, hygienist, and sanitarian, the German Government availed itself of his services every time there was a local epidemic of a serious infectious disease anywhere in the Empire.

In the year 1906 Koch extended his researches far beyond his native land, going to South Africa, East India, and later on to German East Africa. In Africa he was able to discover a vaccination method as protection against the rinderpest. He studied the bubonic plague and other tropical dis-

eases where they were endemic, and wherever he went he instituted such prophylactic and sanitary measures as to bestow lasting benefit on regions which were formerly devastated by seemingly unconquerable diseases and plagues.

Without minimizing any of the great master's discoveries or scientific labors, I do not believe I commit any error in saying that the communication which he made, on the evening of March 24, 1882, before the Physiological Society of Berlin, entitled, "The Etiology of Tuberculosis," was his most important contribution to medical science. When we bear in mind the sociological aspect of the disease whose etiological factor and primary cause were revealed to the world in this communication, well may we say that the 24th of March of 1882 was a "red-letter-day," to be forever remembered in the annals of medical history and human progress. Thanks to Koch, tuberculosis can be considered to-day a preventable disease. It was he who showed us where to find the cause of this scourge of mankind, and how to combat it. Because Koch taught us that the infectious agent—the tubercle bacillus—was alone responsible for the disease, and could be found in the pulmonary secretions of the consumptive, and that, if carelessly deposited, the dried and pulverized sputum containing the germ could be inhaled and ingested by others, producing the disease anew, we have virtually become masters of what was once considered not only the most prevalent, but the most fatal affliction of man and beast. Through the discovery of the tubercle bacillus alone Koch has made mankind his everlasting debtor. When to-day, as is the case in some localities in America, in England, and in Germany, the mortality from tuberculosis has been reduced to well-nigh half of

what it was prior to Koch's discovery and isolation of the tubercle bacillus, the saving of life, the lessening of physical suffering, this diminution of the social misery which accompanies all diseases of the masses, is all due to Robert Koch. The financial gain which has accrued to countries and communities which have followed Koch's teachings regarding the prophylaxis of tuberculosis in man, by preventing costly invalidism, saving countless valuable lives, and retaining them as bread-winners and useful citizens, is beyond human calculation. By his discovery of tuberculin he has added an invaluable agent to our methods of early diagnosis of tuberculosis in man and beast, and given to our armamentarium in tuberculotherapy a very important remedy. Through the tuberculin test in cattle the weeding out of tuberculous animals has been made practical and an incalculable benefit bestowed upon animal industry and the dairy business; and possible sources of tuberculous transmission from beast to man have been reduced to a minimum. The same may be said of Koch's discoveries regarding anthrax and rinderpest. The vast and inestimable good this one man has been able to bestow upon mankind by his scientific labors will forever remain unique in the history of human possibilities.

The life of Robert Koch should serve as an inspiration, not only to us who are his humble disciples, but to all mankind. The motto of his first scientific communication was "*nunquam otiosus*" (never idle), and he had adhered to it up to his altogether too early death. In scientific research, in constant work to combat disease and make mankind healthier and happier this great man found his reward.

Honors and distinctions of all kinds have been

bestowed upon Robert Koch. The German emperor made him recently a privy councillor with the title of Excellency. He was honorary professor of the University of Berlin and had honorary titles from many German and foreign universities. He was an honorary member of nearly all the great scientific societies of the world, including the New York Academy of Medicine and the German Medical Society of New York. He had been decorated by nearly all the monarchs of Europe and also by the Emperor of Japan. He was awarded the Noble Prize for physiology in 1905.

Those of us who have had the privilege of having been his pupils or having met him, will recall his dignified appearance and the thoroughness with which he discussed any subject, and the firmness with which he defended any theory or fact which he thought right. On many occasions he has paid tribute to the thorough antituberculosis work done in America and particularly in New York, and has held up New York City as a model to other countries in this respect. In a recent letter to me he paid a tribute to our nation at large by saying: "The American people seem to me particularly susceptible to popular antituberculosis education."

You will pardon me if I express here in conclusion my personal feeling on the loss of this great man, for on more than one occasion have I received kind and encouraging words from him for my modest labors. Let us then remember him with gratitude, look upon him as the great master and leader, and strive to emulate him by doing our best as physicians and men, and when the time comes—and it must come some day—when through your labors and through our children's labors and through better social conditions, tuberculosis as a disease of the

masses and as an endemic affliction will no longer be with us, the name of Robert Koch will stand out as the one man who had shown us the way to victory.

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